GPS TRACKER TK-107 USER MANUAL

Preface

Thank you for purchasing GPS Vehicle Tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual. Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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1 Summary

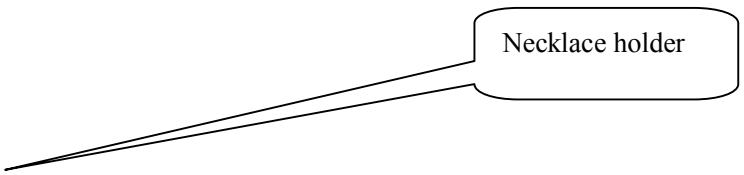
Working based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or GPRS,and guard against theft of Vehicle.

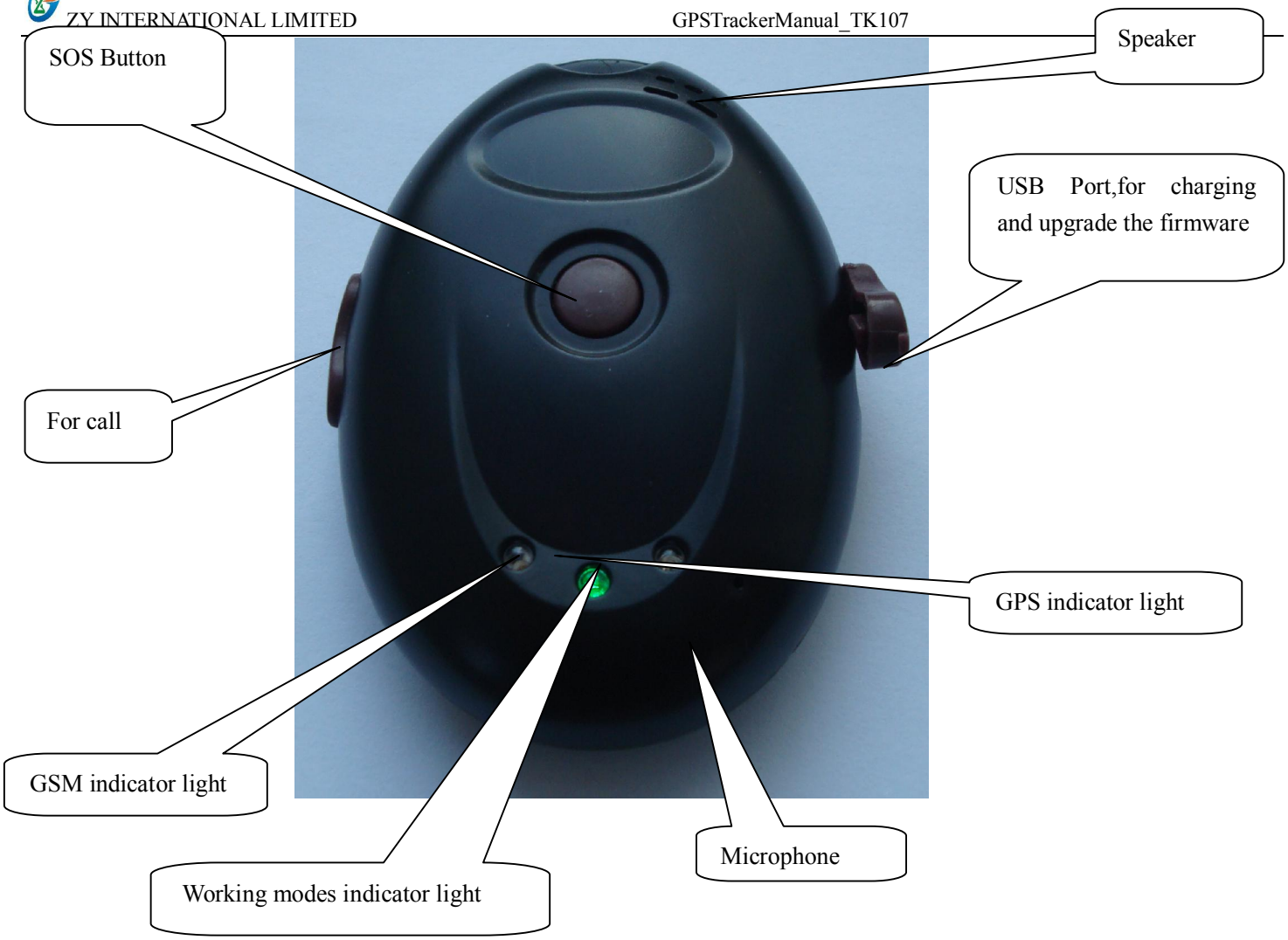
2 Applications

- Vehicle rental / Fleet management,etc.
- Protect the child / the elder / the disabled / pet,etc.
- Businessmen safety.
- Personnel management.
- Covert tracking.

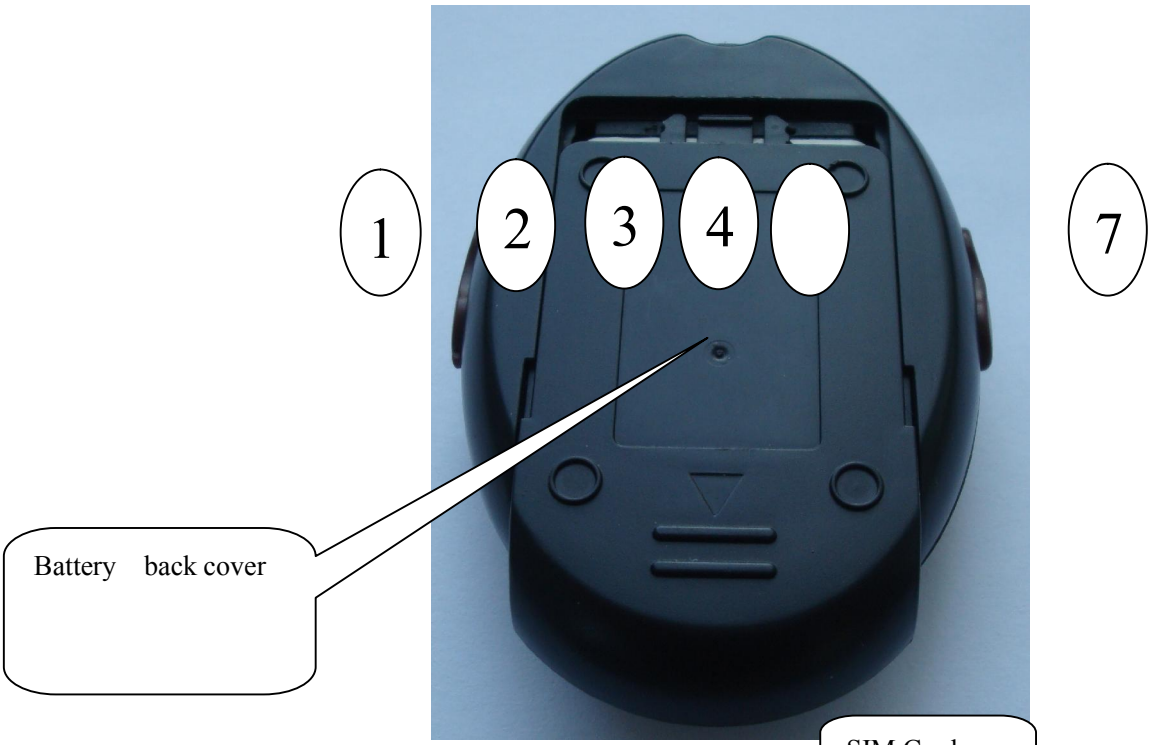
3 Hardware Description

3.1 Front Face

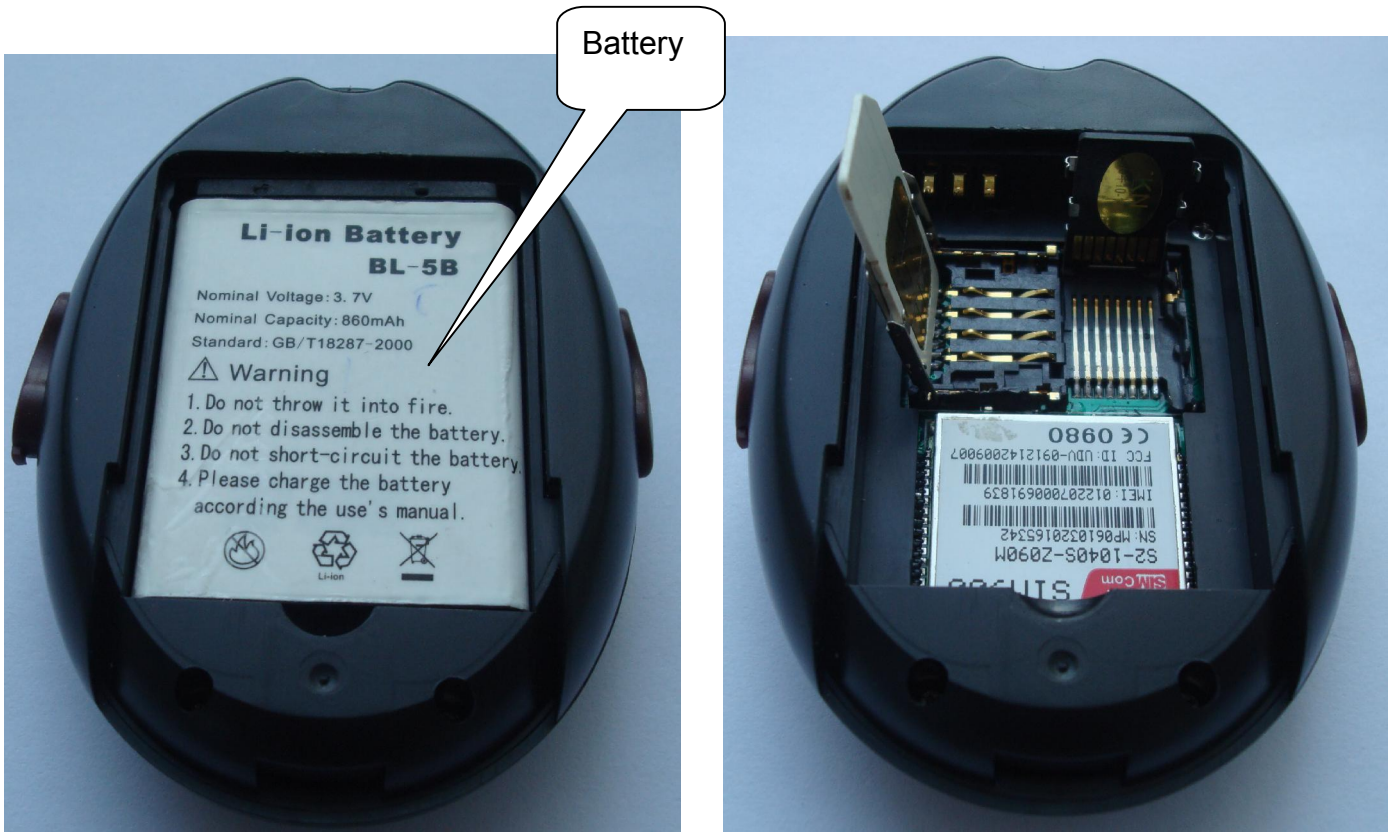



SOS Button
Speaker
USB Port,for charging and upgrade the firmware
For call
GPS indicator light
GSM indicator light
Microphone
Working modes indicator light

3.2 Rear Face


1
2
3
4
7
Battery back cover
SIM Card
SD Card

3.3 Interior



4 Specs.

Content	Specs.
Dim.	80MM*56MM*22MM
Weight	50g
Network	GSM/GPRS
Band	850/ 900/1800/1900Mhz
GPS chip	SIRF3 chip
GSM/GPRS module	Simcom900
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Reacquisition 0.1s Cold status 45s Warm status 35s Hot status 1s

Battery	DC5V input
Battery	Chargeable changeable 3.7V 800mAh Li-ion battery
Standby	100hours
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

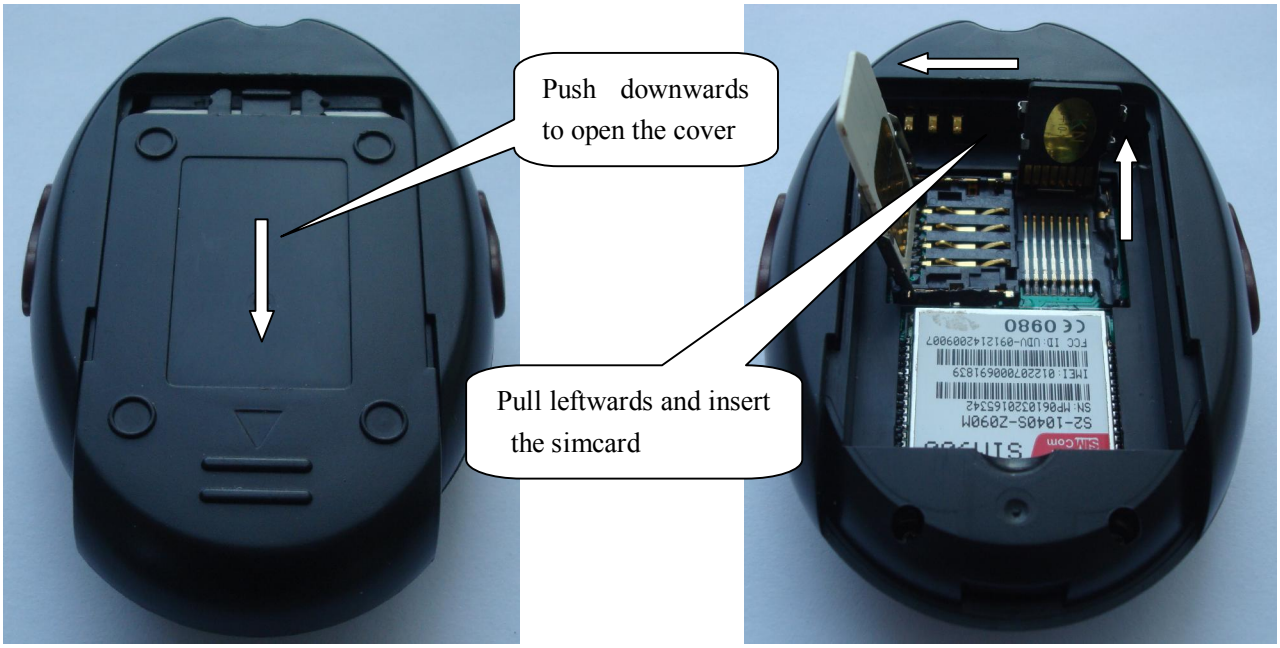
5 SIM card installation

Make sure that there is no call transfer and call display is on, and PIN code off.

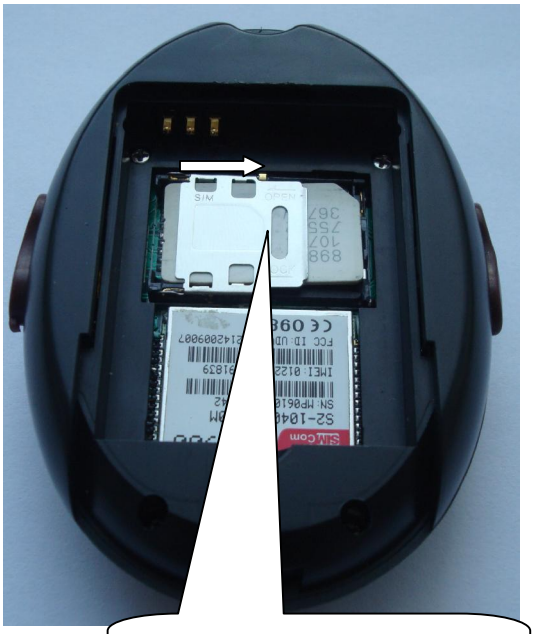
Steps

1. Open the Battery back cover

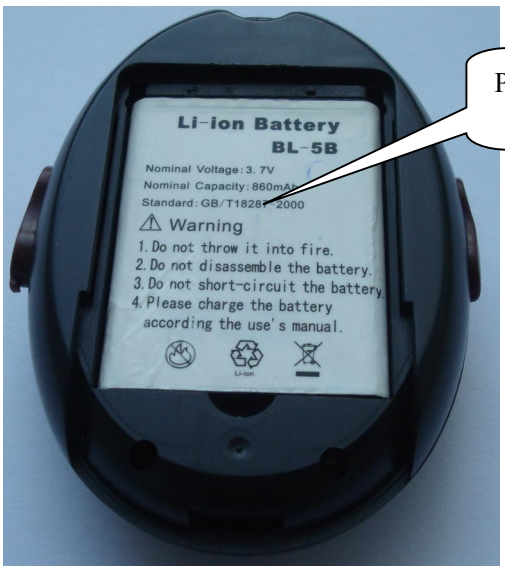
2.Open the SIM card slot and SD card slot,and put one SIM card and one SD card



Fasten downwards ,make sure the SD card is mounted



After SD card is mounted，
Fasten the simcard rightwards


Li-ion Battery
BL-5B
Nominal Voltage: 3.7V
Warning
1. Do not throw it into fire.
2. Do not disassemble the battery.
3. Do not short-circuit the battery
4. Please charge the battery according the use's manual.

Put the battery

Fasten the cover upwards

6 Startup

- Put the SIM card and SD card in place,install batteries locator will automatically boot.
- After startup middle green quickly ablaze, left GMS yellow colored long bright 2 seconds, right of GPS blue lights for not bright, and 20-30 seconds in the middle of the green light will shine out 1 second for 3 seconds left GMS parade every 3 seconds, a shiny for GSM now working normally.
- about 40 to 90 seconds later, this product will be receiving GPS signals on the right of the blue lights began bright 1 second destroy 3 seconds, when this product blue when the light

is you can play the following Settings. (note: blue lights on time with the current GPS signals about, the current not GPS signals blue lamp will not bright.

7 Usage

The tracker has three working modes: Tracking mode， Monitor mode , Double-way Commnication mode ,Modes switch between “Tracking”, “Monitor” and “Double-way Commnication”.

When power on the tracker, the default mode is “Tracking” mode, you can send “monitor+password” to switch to Monitor mode, or send “talk+password” to switch to Double-way Commnication mode, or “tracker+password” back to Tracking mode.

8 Track Modes

8.1 Initialization

Send “begin123456” to the product, it will reply “begin ok” and initialize all the settings.

TO:13188888888 begin123456	From:13188888888 begin ok

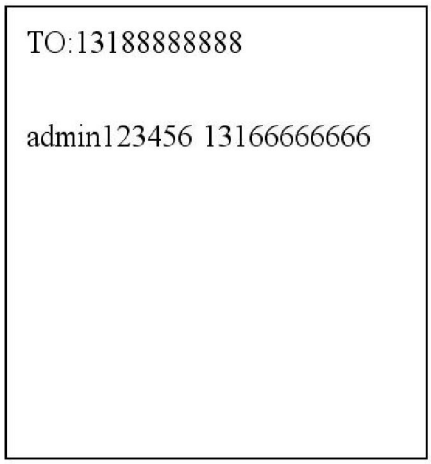
8.2 Change the Password

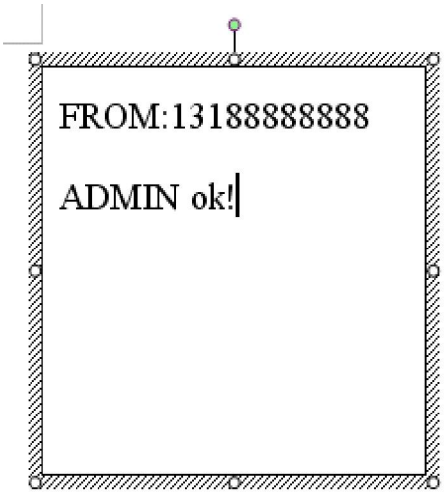
Send SMS “password+old password+space+new password” (default password: 123456), it will reply “password ok”

TO:13188888888 password123456 888999	From:13188888888 password ok

8.3 Authorization

8.3.1 Send SMS “admin+ password+ space+ cell phone number”to set the first authorized number, it will reply “admin ok”, The other authorized numbers should be set by the first authorized number.(PS: There are only 5 numbers able to be authorized)





8.3.2 Send SMS noadmin+password+space+authorized number to cancel the authorized number.

8.3.3 When an authorized number send SMS or dials up the unit, it will reply as below:

Lat: 22.566901 long: 114.051258 speed: 0.00 14/08/09 06.54 F:3.85V,1,Signal:F imei:354776031555474 05 43.5 460 01 2533 720B

Lat: 22.566901 long: 114.051258== Coordinate

0.00 === speed

14/08/09 06.54== Date&Time

F:3.85V == battery power

1 == charging 0 means no charging

Signal:F ==== Full GPS signal 0 means weak GPS signal

354776031555474== IMEI号

05=quantity of satellites (from 3 to 12)

43.5=Altitude

460 = MCC Mobile Country Code

01 == MNC Mobile Network Code

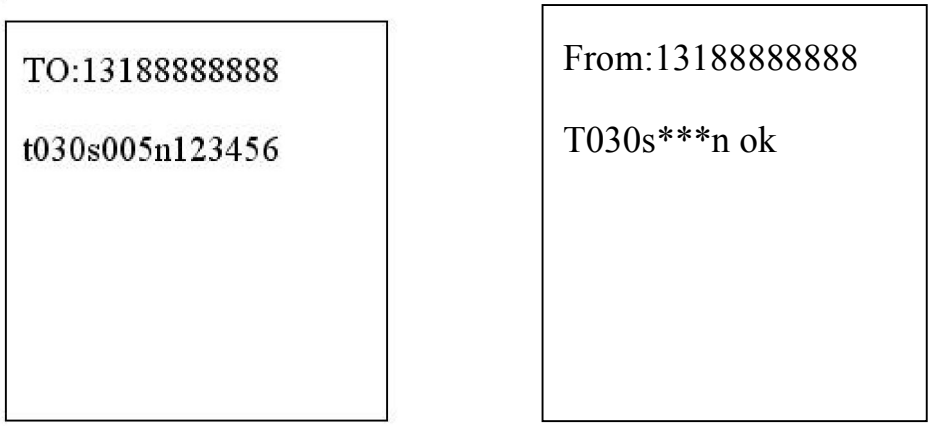
2533= LAC Location area code

720B= Cell ID

8.4 Auto-Track

This function is using for the user to receive SMS with Geo-info in a certain time.

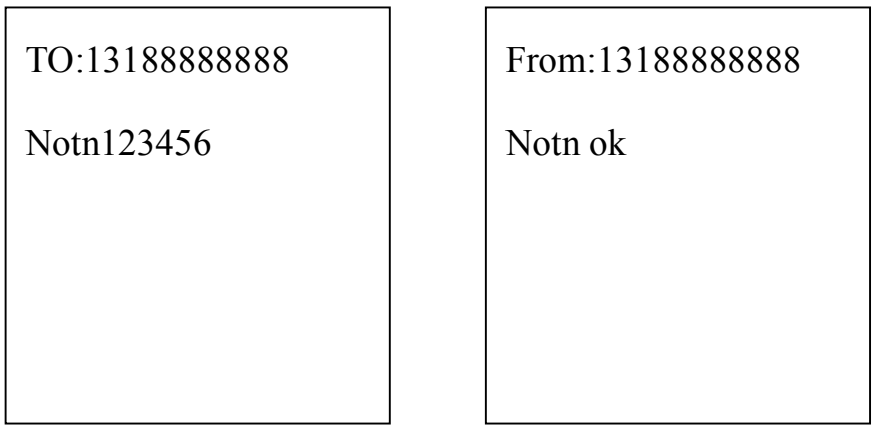
8.4.1 Set up: Send SMS t030s005n+password to the unit, it will report the Geo-info at 30s intervals for 5 times.(s: second, m: minute, h: hour).You will receive a reply as “t030s005n OK” if the setting is successful.The setting must be in 3 digits and at maximum 255 in value.



8.4.2 Send SMS t030s***n+password to the unit, it will reply SMS heaps of times. You will receive a reply as “t030s005n OK” (t030s***n ok) if the setting is successful.

8.4.3 Cancel: Send notn+password to delete the “ auto track “,it will reply “notn ok”。

Remark: the interval must not be less than 30s.



8.5 Tlimit Function

8.5.1 Send “tlimit123456 50” (50 to restrict send distance, 1-6000M set), reply “tlimit ok” (note: this function should coordinate with automatic positioning used together). Set up this function after locator to get out of setting distance will send a positioning information, such as not ambulate won't send information, so can "province user information costs.

8.5.2 Send” tlimit123456 0 “for close distance limit function, reply” tlimit ok”.

8.6 GPS-refresh setting

Send SMS “GpsAutoSearch123456 120”，it will reply “GpsAutoSearch ok”. The tracker will search gps signal in 120s interval after setting this. The refreshing time is between 120-600 seconds(120<interval <600)

(note: Longer standby time for longer refreshing time and shorter standby time for shorter refreshing time.)

8.7 Reboot remotely

When using the region GPRS signal not, causing GPRS stuck not while sending data can be sent restart123456,locator received within 3 minutes after the restart a shutdown automatically.

8.8 Geo-fence

Set up a geo-fence for the unit to restrict its movement within a district. The unit will send message to the authorized numbers when it moves out of this district.

Notes: This function will be invalid if the unit moves outside the district. You need to re-set it if you want this function again.

8.8.1 Setup:Send SMS stockade+password+space+longitude,latitude; longitude,latitude to the unit to set the restricted district.

Remark :The first longitude & latitude is coordinate of the top left corner of the Geo-fence, while the second longitude & latitude is the coordinate of the bottom right corner. It will reply stockade ok。

TO:13188888888 stockade123456 114.124845e,22.56718 5n;114.777888e,22.55 5666n

From:13188888888 stockade ok

8.8.2 Cancel:Send SMS “nostockade+password” to deactivate this function.It will reply “nostockade ok”。

TO:13188888888 nostockade123456	From:13188888888 nostockade ok

This function will be out of effect after the unit moves outside the district.

8.8.3 Response SMS format: stockade!+geo-info. It will alarm one time in each setting.

From:13188888888

lat: 22.566923 long:
114.051331 speed: 0.00
28/11/10 03:33 F:4.32V,0,
Signal:F stockade
imei:359587011016261 05
41.5 460 01 2533 720B

8.9 Movement Alert

This function is using for the owner to get alarm when the tracker moves out of a restricted district.

8.9.1 Setup: Send SMS move+password to the unit to set the movement alert,it will reply move ok

TO:13188888888

move123456

From:13188888888

move ok

8.9.2 Cancel: Send SMS nomove+password to deactivate the movement alert,it will reply move ok

This function will be invalid after getting one movement alert

Response SMS format: :move!+geo-info. It will alarm one time in each setting.

From:13188888888

lat: 22.566923 long: 114.051331 speed: 0.00 28/11/10 03:33 F:4.32V,0, Signal:F move imei:359587011016261 05 41.5 460 01 2533 720B

8.10 Overspeed Alert:

This function is used to control the user's driving speed.

8.10.1 Setup: Send SMS speed+password+space+ the speed, For example: speed123456 080,it will reply" speed ok"

TO:13188888888

speed123456 080

From:13188888888

speed ok

8.10.2 Cancel: Send SMS"nospeed+password "to deactivate the overspeed alert,it will reply" nospeed ok。"

TO:13188888888

nospeed123456

From:13188888888

nospeed ok

Response SMS format: speed+080!+Geo-info (suppose the speed is 80km/h).

The tracker will check the speed in 3 minutes interval and alarm if it is overspeed.

]

From:13188888888

lat: 22.566923 long:
114.051331 speed: 0.00
28/11/10 03:33 F:4.32V,0,
Signal:F speed
imei:359587011016261 05
41.5 460 01 2533 720B

Remark: It is recommended that the speed alarm is set at not less than 80km/h. in order to make this function accurate

8.11 IMEI Checking:

Send SMS" imei+password: to the unit,it will reply imei350001122222222 ok.

TO:13188888888 imei23456	From:13188888888 imei35000112222222 2 ok

8.12 Time Zone setting

Send "time zone+password + GMT time ,reply "time zone ok". (note: if GMT time is positive, just write the number 1. If time zone is negative, have to write –1)

TO:13188888888 Time zone23456 1	TO:13188888888 Time zone23456 -1	From:13188888888 time zone ok

8.13 SOS Button

Press the SOS for 3 second, it will send “help me !+ Geo-info” to all the authorized numbers every 3 minutes. It will stop sending such a SMS when one of the authorized number reply SMS ” help me+password” to the tracker.

(note: the default software only send one SOS alert. Pls contact with our company for the firmware with several SOS alerts)

8.14 SMS LINK

8.14.1

Send “smslinkone+password”, This product will reply a GOOGLE link to admin number.The position can be checked directly for one the smartphone

Format ： http://maps.google.com/maps?f=q&hl=en&q=22.567610,114.051227&speed: 0.00 12/11/10 14:36 F:4.22V Signal:F imei:012207000691839

8.14.2

Send “smslink123456”, it will reply “smslink OK” . The tracker will send the following SMS format always.

http://maps.google.com/maps?f=q&hl=en&q=22.567610,114.051227&speed: 0.00 12/11/10 14:36 F:4.22V Signal:F imei:012207000691839

8.14.3

Send “smstext123456”, it will reply “smstext OK”. The tracker will reply normal SMS format for this command

8.15 SMS ONE

Send “smsone+password”.The tracker will reply one SMS to admin number or gprs server. The same function with real-time tracking, but no need to call just send this command

8.16 Low Battery Alert

When the battery inside is less than 3.7 V, it will send low battery alert to admin number

8.17 SMS Center (or appointed number)

8.17.1 Setup: Send SMS adminsms+password+space+cell phone number to setup the SMS center.

The tracker will reply Geo-info & authorized number to sms center number even if the admin numbers call or send command to the tracker

8.17.2 Cancel: Send SMS noadminsms+password to cancel the SMS center.

Response SMS format: authorized number+Geo-info

Note:

◆The SMS message must in Text format, can’t be identified for PDU format.

◆Please use the tracker outside for the first time so that It can get gps signal easily and quickly

8.18 GSM ID（this function can be add or delect for customization.）

GSM ID are in each sms or gprs data. The tracker can be found by GSM ID without gps signal. But the customers have to ask their GSM operator for data base of the GSM ID.

8.19 Motion Sensor（This function is used to protect the vehicel or tracker when it is touched.）

8.19.1 Setup: Send shake+password+space+1-10 to the tracker to set up this function.(1-10 means the level of intensity)

8.19.2 Send SMS shake+password+space+1 is the least sensitivity . Have to shake the tracker strongly to get the alert.

8.19.3 Send SMS shake+password+space+10 is the most sensitivity . Have to shake the tracker slightly to get the alert

8.19.4 Cancel: Send SMS shake+password+space+0 to remove this function.

8.20 SD card function

A mini SD card can be put in the tracker's SD card slot. The GPRS data can be saved in the SD card if GPRS is off. It will send data to the GPRS server again if when is on.

8.20.1 Setup: Send SMS sdlog+password+space+1 to activate the sd card-saving function

Cancel: Send SMS sdlog+password+space+0 to the tracker to deactivate this function

8.20.2 Setup: Send SMS readsd+password+space+1 to ask the tracker to send data in the SD card to the GPRS server.

Cancel: Send SMS readsd+password+space+0 to ask the tracker to stop sending data in the SD card to the server.

8.21 Switch on/off

8.21.1 Switch off

Press TALK button and SOS button for three seconds, the green indicator will flash quickly until it is off.

8.21.2 Switch on

Press TALK button and SOS button for three seconds, the green indicator will flash quickly until it is on.

9 Monitoring Mode(voice surveillance mode)

Send SMS monitor+password, the tracker replies "monitor ok" then the tracker will get through automatically when you call and listen to it

10 Talking Mode

10.1 Send "talk+password"，it will reply "talk ok"， When authorized numbers call to the tracker, it will ring several tones and get through automatically to double-communicate

10.2 Send "volume+password+60" ,it will reply "volume ok"

The volume can be set between 0 to 99 to make the volume louder or lower

10.3 Dial authorized numbers automatically

TALK button can be pressed for 3 seconds until it stops flashing quickly to get help from the authorized numbers in emgency. The tracker can call to the authorized numberes one by one and you can hear the calling. The tracker will

stop calling if any authorized number picks up the calling.

10.4 Press TALK button for 3 seconds to cancel the double-communication or authorized number-calling

111 GPRS setting

APN(access point name), IP, PORT have to be set up for gprs function. Apn user, apn password have to be set up also if there are. So please contact with the gsm operator for them

11.1 Set GPRS protocols

11.1.1 Set TCP protocols: Send SMS Gprsmode+password+space+0 to set up TCP protocol, tracker will reply GPRSMODE ok。

(note: TCP is the default mode in the firmware)

11.1.2 Set UDP protocols:

Gprsmode+password+space+1 to set up UDP protocol, tracker will reply GPRSMODE ok。

11.2 Set IP address and port:

Setup: adminip+password+space+IP address+space+port.

If setup successfully, the tracker will reply SMS “adminip ok”

Cancel: Send SMS noadminip+123456

11.3 Set APN

Setup: Send SMS apn+password+space+specify apn content.

If setup successful, the tracker will reply SMS “APN ok”.

Cancel: The old APN will be invalid automatically when a new APN is set.

11.4 Set APN's User Name

Setup: Send SMS apnuser+123456+space+the sim card's user name.

Send SMS apnuser+123456+space+the APN's user name

If setup successful, the tracker will reply SMS "apnuser ok".

Cancel: The old APN user name will be invalid automatically when a new APN uer name is set.

11.5 Set APN's Password

Setup: apnpasswd+password+space+the sim card's password.

If setup successful, the tracker will reply SMS "apnpasswd ok".

Cancel: The old APN password will be invalid automatically when a new APN password is set.

11.6 GPRS setting

The tracker will hang off the calling in gprs mode when authorized number calls to the tracker, then send gprs data to the server.

GPRS Format explain: serial number, the authorized number, GPRMC data, GPS signal(F is strong L is weak), alarm information, imei , satellite numbers ,altitude,

battery power (F is full,L is weak) ,charging state(1 charging ,0 no charging) ,byte numbers, checksum, MCC, MNC,LAC, CELL ID

GPRS format:

100312033421,13145826175,GPRMC,033421.851,A,2234.0209,N,11403.0733,E,1.87,347.73,120310,,,A*62,F,help me, imei:354776036842240,03,73.5,F:4.14V,0,138,46772,460,01,2533,720B

12 Cautions

Please comply with the instructions to extend the unit life:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.
2. Don't use & store the unit in dusty places.
3. Don't put the unit in overheated or overcooled places.
4. Handle carefully. Don't vibrate or shake it violently.
5. Clear the unit with a piece of dry cloth. Don't clean in chemicals, detergent.
6. Don't paint the unit, this may cause some foreign materials left in between the parts.
7. Don't disassemble or refit the unit.
8. Please use the battery and charger provided by manufacturer. Using other batteries and chargers will cause unwanted situation.
9. Don't dismount the antenna randomly, or use other antennas. This may interfere the transmission, and increase the radiation as well.

13 Faults & The solutions

Faults	Solution
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
Hangup Fail	Check if the unit received GPS signal or not,or if the SIM card there is calling display or not.
Monitor Fail	Check if the authorized number is setup or in the coverage of signals.

Location report in digits of zeros.	Don't use it in the place beyond reach of signals. Place the unit outdoors, especially when starting it up.

(Remark: There are two ways for the times of sending alarm in each setting.one time and heap of times,which is according to the customer's requirements, this product also support platform issued instructions and computer USB send set, its instruction set instruction with SMS instruction))

14 GPS Tracker commands

Function	Command Format	Reply
Initialization	begin+password	begin ok
Change password	password+OldPassword+space+NewPassword	password ok
Setup authorized phone number	admin+password+space+PhoneNumber	admin ok
Delete authorized phone number	noadmin+password+space+PhoneNumber to be deleted	noadmin ok
Get the GPS location (Real-time polling)	Dial up the Tracker one time	GPS coordinate and info
Auto track		
Auto track - 5 times with 30 seconds interval	t030s005n+password	
Auto track - 26 times with 5 minutes interval	t005m026n+password	
Auto track - 10 times with 1 hours interval	t001h010n+password	
Cancel Auto Track	notn+password	notn ok
Switch to Voice Monitor mode	monitor+password	monitor ok
Switch to Tracker mode	tracker+password	tracker ok
Geo Fencing	stockade+password+space+longitudeE/W,latitudeN/S; longitudeE/W,latitudeN/S	stockade ok
Cancel Geo Fencing	nostockade+password	nostockage ok
Movement alert	move+password	move ok
Cancel Movement alert	nomove+password	nomove ok
Overspeed alert	speed+password+space+080	speed ok
Cancel Overspeed alert	nospeed+password	nospeed ok
IMEI checking	imei+password	
SMS Center	adminsms+password+space+cell phone number	
Cancel SMS Center	noadminsms+password	
Low battery alert		low battery+Geo-info
SOS button	Press the SOS for 3 seconds	help me !+ Geo-info
Time zone setting	time+space+zone+password+space+TimeZone	
home page setting	home+password+space+the website you want to set	
Switch to the link format	smslink+password	
switch back to the text format	smstext+password	
To get one time positioning	smsone123456	

Tlimit function	tlimit123456 100	
Cancel Tlimit function	tlimit123456 0	
GSM ID		
Motion sensor	shake123456 0-10 (0 means off,1 means the lowest sensitive, 10 means the highest sensitive)	
Activate SD card function	sdlog123456 1	
Deactivate SD card function	sdlog123456 0	
send data in the SD card to the GPRS server	readsd+password+space+1	
stop sending data in the SD card to the server	readsd+password+space+0	
Tracker reply one sms with GOOGLE MAP link	smslinkone+password	link to google map
set the GPS re-fresh time interval	gpsautosearch123456 120	120 means 120 seconds, and 120 is the minimum
Restore factory firmware default	format	
GPRS Function		
Setup APN	apn+password+space+the customer's APN CONTENT	
Setup APN username	apnuser+123456+space+The APN'S USER NAME	
Setup APN password	apnpasswd+123456 +space+THE APN'S PASSWORD	
Setup IP address & Port	adminip+password+space+ip address+space+port	
Cancel IP address & Port	noadminip+password	

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